The Use of Hypnosis in the Treatment of Burn Patients

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The seriously burned patient needs psychiatric help from the time of injury to full recovery, and this need is increasing as modern burn centers are dramatically improving survival rates. Hypnosis is the psychiatric treatment of choice, possibly because these patients come to the emergency room in a focused state that is the equivalent of a good trance, and all that is required is to insinuate oneself into the trance and then guide away from terror into confidence. I predict that it will not be long before a Burn Centre is considered inadequately staffed without someone competent in the use of hypnosis.

In the United States, it is estimated that each year 731,000 people visit Emergency Rooms for burns (Frank, Berry, Wachtel & Johnson, 1987). Some 60,900 of them are hospitalized at enormous cost, and many still die in spite of vast improvements in the technology and sophistication of care.

Seriously burned patients run the gamut of negative emotions. (Ewin, 1978). Both the burn and its treatments are excruciatingly painful, and fear of the next treatment sets in early. The accident is usually caused by carelessness (of the patient or someone else), so either guilt or anger intervenes. A sense of helplessness and hopelessness resulting in depression is common. Metabolic rate increases as much as 100%, and nausea and anorexia hinder the increased food intake necessary to meet metabolic demands. It is easy for these patients to become sullen, obstinate, and uncooperative. Curtis Artz, first President of the American Burn Association and one of the early advocates of separate burn centers, is quoted (Dahinterova, 1967) as follows:

The well-motivated individual did extremely well after even the most severe burn injury, whereas individuals without these resources had considerable difficulty adjusting to the result of a massive injury.

Hypnosis can provide this sense of security and motivation, and a number of clinical reports describe burned patients on critical, downhill courses who reversed
direction and healed promptly following hypnosis (Cheek, 1962; Crasilneck, Stirman et al., 1955; LaBaw, 1973; Pellicane, 1960).

Early hypnosis (within the first 2 hours after burning) is particularly valuable in limiting the amount of inflammatory reaction to the thermal injury. Brauer and Spira (1966) showed that up to 4 hours postburn a standard ‘full thickness’ experimental burn could be excised and used as a skin graft, demonstrating that deeper dermal layers are not killed by the heat, but by the inflammatory progression of the wound (Hinshaw, 1963). Chapman, Goodell & Wolff (1959a) showed that the signs of inflammation (heat, pain, redness, swelling) are affected by the patient’s attitude to the thermal injury. The thermal stimulus goes to the central nervous system, and it initiates the inflammatory response. A hypnotically imagined burn ‘stimulus’ can evoke an actual burn, that is, a painful blister (Bellis, 1966; Chapman, Goodell & Wolff, 1959b; Johnson & Barber, 1976; Ullman, 1947; Spanos, McNeil & Stam, 1982). Likewise, after a true burn stimulus (but before the natural response has occurred), hypnotic suggestions of cooling and anaesthesia limit or prevent the inflammatory response, just as actual icing of a burn limits the progression of a burn. De Camara, Raine and Robson (1981) used electron microscopy in a controlled study of standard scald burns (second degree) on guinea pigs treated by ice-water immersion for 30 minutes at 10 minutes postburn. At 2, 8, 24, and 96 hours compared to controls the cooled burns showed less edema, less swelling of dermal axons, and lack of infiltration by polymorphonuclear leucocytes. At 96 hours in the untreated burns ‘the damaged epidermis sloughed . . . large numbers of polymorphonuclear leucocytes had invaded the dermis forming areas resembling microabscesses . . . nerves compared with normal nerves showed degranulation of the axons and extensive fragmentation of the myelin sheaths.’ In the treated group at 96 hours postburn, ‘the cooled burn wound appeared almost normal by light microscopy’ except that fragmentation of myelin sheaths was pronounced and no different than that observed in the untreated group.

A burned patient who has accepted the suggestion that his wounded area is ‘cool and comfortable’ is easy to treat, optimistic, and heals rapidly (Ewin, 1978, 1979). This is particularly evident in burns of less than 20% of the body surface. In larger burns, inflammatory response is not fully blocked by hypnosis, but the edema is limited, as shown by the fact that with early hypnosis, these patients may require as little as 50% of the fluid calculated by formula for resuscitation (Margolis, Domangue, Ehleben & Shrier, 1983). During the first 48 hours following a sizable burn, large amounts of fluid shift from the bloodstream into the injured tissues, causing local edema. When a patient requires a large volume of fluid to maintain blood pressure and urine output during these first 2 days, he must later mobilize much of this back into the circulation. In older patients with weak hearts, this can result in fluid overload, pulmonary edema, and heart failure. To safely cut in half the amount of fluid given during shock resuscitation is potentially life-saving.

Van der Does and Van Dyke (1989) have correctly noted that my clinical observations on limiting inflammatory progression of burns are only case reports,
and the data have not yet been confirmed by a convincing controlled study. While awaiting such a study, I implore the reader to try it—you'll like it (Ewin, 1996).

**PAIN AND FEAR**

When a newly burned patient arrives in the Emergency Room, his mind is concentrated and hypnosis is easy to induce if he is not already in a spontaneous trance. He is often a stranger to the physician, and the first communication is an introduction and suggestion:

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<th>Verbalization</th>
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<td><strong>DOCTOR:</strong> I’m Dr —— and I’ll be taking care of you [<em>pause</em>]. Do you know how to treat this kind of burn?</td>
<td>This question is to bring to his immediate attention that he does not know and that he must put his faith in the medical team. Precise wording is important because if you ask ‘Do you know <em>anything</em> about treating burns?’ he may think he knows something and tell you about butter, Solarcaine, or kiss-it-and-make-it-well, which is complete avoidance of recognizing the dependence.</td>
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<td><strong>PATIENT:</strong> No.</td>
<td>The standard reply. In the rare instance of a physician or nurse who actually does know about burns, you simply use that knowledge to say: ‘Then you already know that you need to turn your care over to us and that we will take care of you’. This exchange lets the patient know that he is on the team and has already done his biggest job, so he can safely lay aside his fight or flight response (he’s already fled to the hospital), which mobilizes hormones that interfere with normal immunity and metabolism. It includes a prehypnotic suggestion (Alexander, 1971) that he is safe and can be comfortable if he makes a commitment. With his affirmative answer he has made a hypnotic contract that is as good as any trance. Frightened patients tend to constantly analyze each sensation and</td>
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new symptom to report to the doctor. By turning his care over to us (the whole team), he is freed of his responsibility and worry. Next, his attention is diverted to something he had not thought of before.

**Doctor:** The first thing I want you to do is turn the care of this burn completely over to us, so you won’t have to worry about it at all. The second thing is for you to realize that what you think will make a great deal of difference in your healing. Have you ever seen a person blush red, or blanch white with fear?

**Patient:** Yes.

**Doctor:** Well, you know that nothing has happened except a thought, an idea, and all of the little blood vessels in the face have opened up and turned red, or clamped down and blanched. What you think is going to affect the blood supply to your skin, and that affects healing, and you can start right now. You need to have happy, relaxing, enjoyable thoughts to free up all of your healing energy. Brer Rabbit said ‘everybody’s got a laughing place,’ and when I tell you to go to your laughing place, I mean for you to imagine that you are in a safe, peaceful place, enjoying yourself, totally free of responsibility, just goofing off. What would you choose for a laughing place?

**Patient:** Go to the beach . . . or . . .

**Doctor:** Let’s get you relaxed and go to your laughing place right now, while we take care of the burn. Get comfortable and roll your eyeballs up

Even dark-skinned patients are aware of this phenomenon in light-skinned people.

The patient needs something he perceives as useful to occupy his mind. The laughing place may be the beach, television, fishing, golfing, needlepoint, playing dolls, anything. It becomes the key word for subsequent rapid induction for dressing changes, and so on—to simply ‘go to your laughing place.’
as though you are looking at the top of your forehead and take a deep, deep, deep breath and as you take it in, gradually close your eyelids, and as you let the breath out, let your eyes relax and let every nerve and fibre in your body go [slow and cadenced] loose and limp and lazy, your limbs like lumps of lead. Then just let your mind go off to your laughing place and . . . [visual imagery of laughing place].

This short amount of conversation does not ordinarily delay the usual emergency hospital care. Most often, when the patient arrives in the Emergency Room an analgesic is given, blood is drawn, IV drips are started, and cold water applications are put in place by the time the doctor arrives. If not, these can proceed while the conversation takes place. A towel dipped in icewater produces immediate relief of the burning pain that occurs right after a fresh burn. Since frostbite is as bad an injury as a burn, the patient should not be packed in ice, but icewater towels are very helpful. In fact, Chapman (Chapman, Goodell & Wolff, 1959a) showed that applying icewater to a burn holds the inflammatory response in check for several hours, so there is ample time to call for the assistance of a qualified hypnotist if the primary physician is not skilled in the technique of hypnosis.

**Verbalization**

**Comment**

**DoCToR:** Now while you are off at your laughing place, I want you to also notice that all of the injured areas are cool and comfortable. Notice how cool and comfortable they actually are, and when you can really feel this, you’ll let me know because this finger [touch an index finger] will slowly rise to signal that all of the injured areas are cool and comfortable.

By this time, the patient has iced towels on and the analgesic is taking effect so that he actually is cool and comfortable. It is much easier hypnotically to continue a sensation that is already present than it is to imagine its opposite. The suggestion ‘cool and comfortable’ is anti-inflammatory, and if he accepts it, he cannot be hot and painful. From now on, the word injured is substituted whenever possible for the word burn, because patients use the word burning to describe their pain. (Do not specify a particular area such as hand, neck, etc., because while these areas may do well, some area you forgot may do poorly.)
DOCTOR: [after obtaining ideomotor signal] Now let your inner mind lock in on that sensation of being cool and comfortable and you can keep it that way during your entire stay in the hospital. You can enjoy going to your laughing place as often as you like, and you’ll be able to ignore all of the bothersome things we may have to do and anything negative that is said.

DOCTOR: Go to your laughing place.

I then leave the patient in trance, go ahead with his initial care, and get him moved to the Burn Unit. Often, he will drop off to sleep.

On subsequent days, this is all the signal the patient usually needs to drop into a hypnoidal state and tolerate bedside procedures, physical therapy, and so on.

With burns covering less than 20% of the body surface, the single initial trance generally suffices, while in more extensive burns, repeated suggestion helps control pain, anorexia, and uncooperativeness (Crasilneck et al., 1955; Ewin, 1973; Schafer, 1975; Wakeman & Kaplan 1978; Knudson-Cooper, 1981; Patterson, Everett, Burns & Marvin, 1992). In more extensive burns requiring multiple surgeries, the patient’s outcome may be influenced by subconscious hearing of pessimistic conversation while under general anesthesia (Ewin, 1986a,b).

GUILT AND ANGER

Since a thought can produce a ‘burn’ (see above), continued feelings of guilt or anger can prevent healing, and should be dealt with during emotional countershock (Mattson, 1975) a day or two after admission. If the patient caused it and is feeling guilty, I stress the fact that the injury was unintentional, he has been punished enough and has learned a lesson he will never forget or repeat. If someone else is at fault and he is angry, I point out that our first priority is healing. Getting well does not interfere with his legal rights, and they come later. If it was an accident, I ask my patient to forgive the person of evil intent, even though planning to pursue legal redress. There is no place for anger at his laughing place, and he is instructed to postpone that feeling until healing has occurred.

PAIN—RESTING AND PROCEDURAL

During hospitalization, burned patients endure two quite different pain experiences. Resting, or background, pain is ever present and of low to moderate intensity.
Opioids are the treatment of choice, even though they seldom provide complete relief. There is little danger of addiction or serious side effects from liberal use of opioids over the course of burn healing (Melzack, 1990). Hypnosis can be a helpful adjunct, and should not be withheld even in patients who test low in hypnotizability (Patterson, Questad & delLateur, 1989; Schafer, 1996).

Procedural pain is short-lived and excruciating, often unmanageable with multiple forms of analgesia, including high doses of opioids (Perry, Heidrich & Ramas, 1981). Daily tubbings, wound care, and dressing changes are too frequent to use general anesthesia without harming the patient. Patterson, Goldberg and Ehde (1996) report a patient who refused to continue his dressing changes, stating: ‘I would rather die than go through the pain again.’ He was hypnotized twice, and at his next dressing change he fell asleep for 2 hours. The authors note that few patients have responded as dramatically since that time. Nonetheless, this case illustrates the clinical value of their controlled studies (Patterson, Questad & delLateur, 1989; Patterson et al., 1992; Patterson & Pateck, 1997; Everett, Patterson & Chen, 1990) showing that burned patients with high pain scores obtained more subjective relief from hypnosis than those with low pain scores or the controls who were not hypnotized.

A videotape of a patient with severe and intolerable pain at dressing changes of both legs is available from the library of the American Society of Clinical Hypnosis (Dane, 1988). In the tape, he undergoes hypnosis, rests quietly through the tubbing and dressing, then walks back to his room ‘standing on his own two feet’.

**INFECTION**

Three-fourths of all deaths occurring in burn patients are due to sepsis (Simmons & Howard, 1982). Hypnosis exerts a profound effect on infection, but the mechanism remains unclear. In 1847 Esdaile’s (reprinted 1957) surgical death rate from infection dropped from 45 to 5% when he started using hypnoanesthesia in India. Schafer (1975) noted that the patients he hypnotized on the Burn Unit healed without infection. He graciously credited this to good surgical care, but surgeons know better. Chong (1975) describes the Monkey God rituals in which participants in a trance-like state put skewers through their cheeks and flesh without sterilization, and he comments that ‘no case of sepsis or tetanus has ever been reported.’ It has been my experience with the viral infections of warts (Ewin, 1974) and herpes (Ewin & Hill, 1981) that hypnotic intervention is effective. Feller, Flora and Bawol (1976) showed in a cooperative study of 21,000 burned patients that survival was not statistically influenced by the type of topical antibiotic used, or even if none was used.

How might hypnosis influence infection? Virulence of the organism and resistance of the patient are the protagonists, and presumably all we can influence with words is the patient’s resistance. A reasonable theory derives from comparative
physiology: many life-forms have a special inactive state in which survival is enhanced. The tetanus organism in its spore state can survive drying, boiling for 5 minutes, and exposure to antibiotics: in its vegetative state, it is susceptible to many antibiotics and even oxygen. The amoebic cyst has been revived after drying for 40 years and is not harmed by ordinary chlorination of drinking water or application of any known medications: in its active trophozooite form, it is destroyed by numerous amoebacidal drugs. Plants and trees become dormant in wintertime and can be pruned, grafted, or transplanted safely; they are unlikely to survive the same treatment during the active growing period of springtime. The African lung fish (Propterus) can survive for several years out of water in a state of suspended animation called estivation or summer torpidity. The ground squirrel hibernates to survive winter freezing and food shortages, decreasing heart rate from 300 to 10 per minute and reducing metabolism 30 to 100 times. A deep somnambulistic trance apparently gives humans similar protection against potentially lethal external onslaughts. More recent studies in immunology and microchemistry indicate that ‘information substances’ (neuropeptides) are released by nervous tissue, some of which act as cytokines which influence inflammation and immunity (Pert, Ruff, Weber & Herkenham, 1985; Pennisi, 1997). These include substance P (Payan, 1989), interleukin-1 and interleukin-6, as well as counterregulatory hormones such as catecholamines, cortisol, and glucagon (Fong, Moldawer, Shires & Lowry, 1990; Silver, Gamelli, O’Reilly & Hebert, 1990). In a review article, Solomon (1987) puts forward over 30 ‘postulates’ for specific implications of CNS-immune interaction. Most telling is Ader’s (1981) demonstration of Pavlovian conditioning of the immune system in rats.

My own experience has matched Esdaile’s, and I no longer use prophylactic systemic antibiotics on burned patients who have been hypnotized early and can be treated as outpatients. Larger burns requiring hospitalization should be referred to a Burn Center. In the rare patient who develops infection, a culture and the appropriate antibiotic should be used.

REGRESSION AND DEPRESSION

Seriously burned patients easily develop a sense of helplessness and fear of the many painful dressing changes and whirlpool tubings they are required to undergo. Children in particular regress to infancy and will urinate and defecate in bed and on their wounds, adding to morbidity (LaBaw, 1973). Simply lying in bed is regressive. Burns seldom occur on the bottom of the feet, and as soon as shock is controlled enough to allow the vertical position without hypotension (3 or 4 days), the patient should be encouraged to ‘stand on his own two feet’ to void and at least to walk around the bed with help. This counteracts regression, opposes depression, and is the beginning of physical and emotional rehabilitation.
TREATMENT OF BURN PATIENTS

NUTRITION

The metabolic rate rises significantly with burns, and attains a maximum of twice normal when the extent of the burn reaches 60% of body surface. Meeting caloric requirements is imperative for good wound healing, and recent studies indicate that enteral feeding may protect against endotoxemia and is preferable to intravenous feeding. Burned patients are often aware of the odor of their secretions and feel queasy or lacking in appetite. Hypnosis is widely used to control the nausea associated with chemotherapy, and Crasilneck (Crasilneck et al., 1955) has reported a depleted burn patient who increased his oral intake to 8000 Kcal per day with hypnotic suggestions to eat everything on his plate.

BODY IMAGE AND PHYSICAL REHABILITATION

Disfigurement is never pleasant, and in this age of body-building, facelifts, breast implants, and bikinis, the slightest imperfection or scarring can make a patient feel like the Phantom of the Opera. If the patient has a religious background, this can be a powerful resource, and I emphasize that the real self is still there, and they can learn to forgive anyone who doesn’t know that fact and looks askance. Patients without spiritual resources need to be approached with a more Ericksonian technique, utilizing whatever ego strengths are available.

Physical rehabilitation requires determination to stretch out contractures, ignoring or modifying perceptions of itching and irritation in scars, and overcoming heat intolerance (Wakeman, 1988). Above all, one must persevere in physical therapy until maximal improvement is attained. Physicians tend to leave this to the physiotherapist so completely that it is almost like abandoning the patient. Hypnotic suggestions directed at these problems near the end of treatment are a final expression of interest and encouragement, and give the physician a matchless opportunity to congratulate the patient on his participation in the outcome, as he resumes control of his own life.

SUMMARY

Hypnosis is of inestimable value in the care of burns from onset to discharge. In the first 2 to 4 hours postburn it diminishes the inflammatory response that causes progression of a burn from first to second degree, or from second to third degree. Later, it is helpful for resting pain, and especially effective for control of pain in those patients with the most excruciating procedural pain. Infection is minimized, suppressed appetite can be restored, and body image and active participation in rehabilitation are enhanced.

In conclusion, it is encouraging to note that in looking 10 years ahead, predicting
changes to come in burn care, the outgoing president of the American Burn Association said in his presidential address that ‘Hypnosis and relaxation therapy will be in common use’ (Heimbach, 1988).

REFERENCES


